Global Situational Awareness Tool (GSAT)

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Urgency and Timing

- **Driving Factors –**
  - **Worldwide operations in a wide variety of environments**
  - **Need Situational Awareness of Environmental & Health Conditions**
  - **Need an effective means of quickly evaluating a variety of information**
  - **Lessons Learned OEF/OIF**
    - **CE and SG Users polled, need/s**
    - **Flooded Tents**
    - **Iraqi Sand Fly-Leishmaniasis**
    - **DNIF Aircrews-Shigellosis**
    - **Forces bedded down in toxic pl**
    - **Radioactive drinking water**

GSAT Description

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Web Based Expeditionary ESOH Planning capability

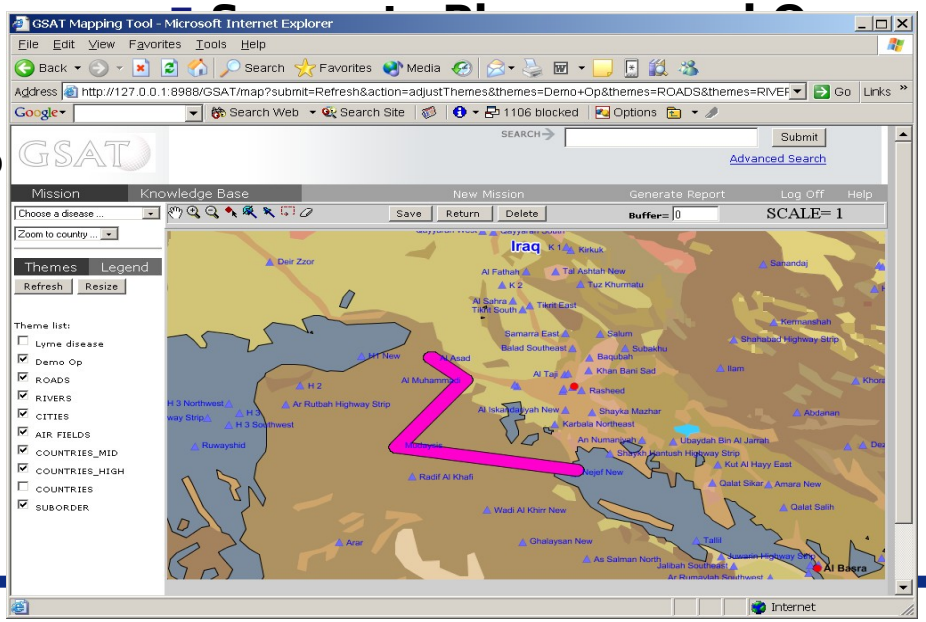
- Mission Planning Starting Point
- Plan, assess and react to environmental, safety and health risks and pre-identify site conditions at Forward Ops area.

Output-

- Threat & mitigation informatio
- Plain language text
- Risk maps
- Summary stoplight report
- Comprehensive risk report
- Risk Mitigation/avoidance information provided

Geospatial Decision Support

- Site Specific, timely, actionable analysis of ESOH Risks in Theater
- Fuses Disparate Databases & systems
- Cross-functional Tool



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Why GSAT?

Automated Operational and ESOH Risk Management

- Operational Planning merged with Engineering and Preventive Medicine
- Pre-deployment Environmental, Engineering & Medical Threat Info

Shared DoD Infrastructure

- Complementary Not Duplicative
- Common DOD Picture
- Archives Info for Future Planning
- Capitalize on Multitude of Existing Databases

Engineered Knowledge base

- SME in a box
- Rules/Course of Action arguments

- Future of Mission Planning: Database Fusion & System Integration

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Presently

Environmental or ESOH Intelligence-

- **Usual Means- Site Survey, Intel Support, or Internet Search**
  - **Time, money and manpower intensive**
  - **Not thoroughly researched, evaluated or disseminated**
  - **Not able to provide**
    - **timely risk analysis**
    - **immediate warning alerts with risks**
    - **ESOH capability, forward location data**
  - **Not well integrated (stove piped)**

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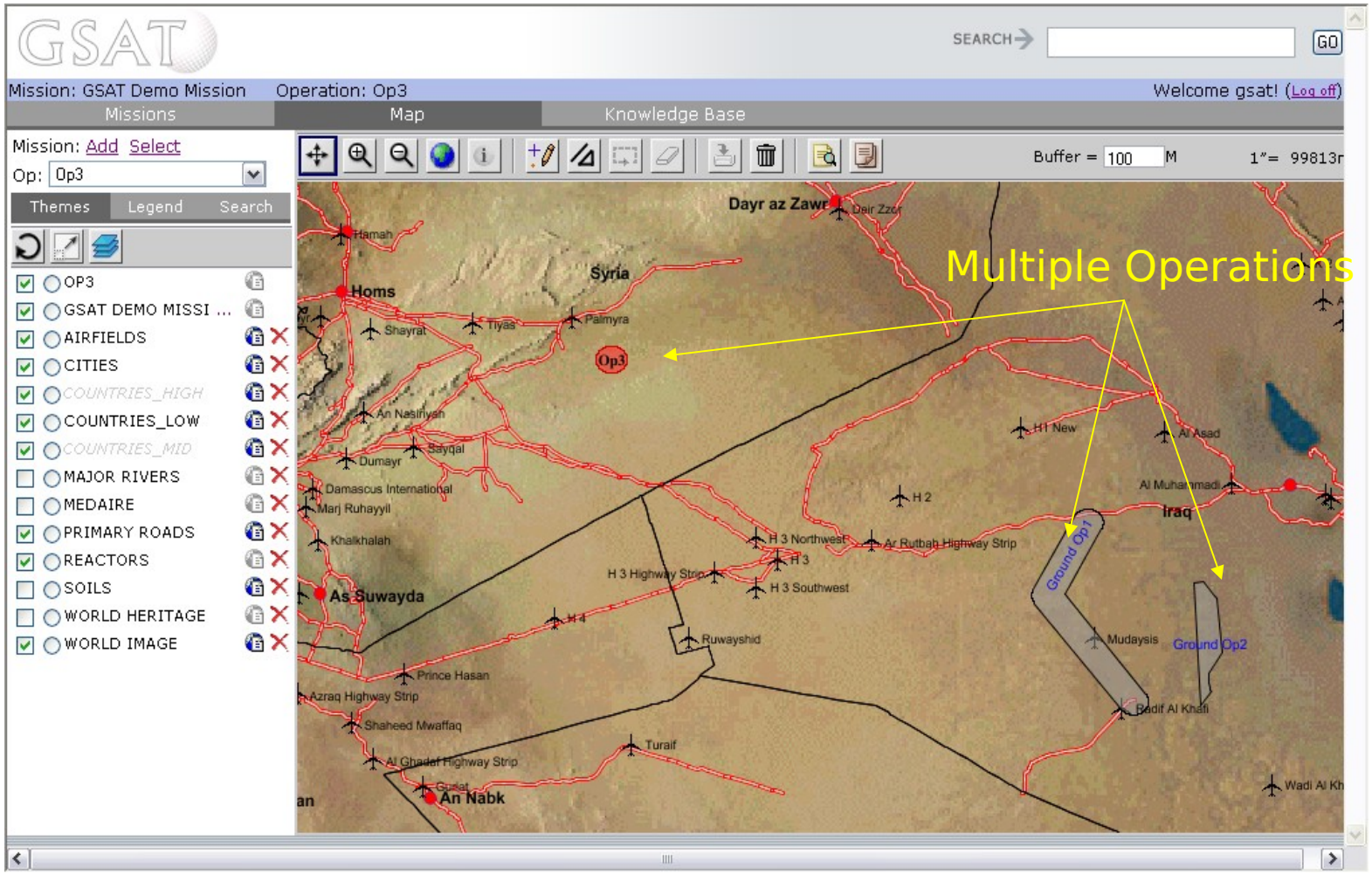
GSAT ConOps

GSAT Concept of Operations

- Site surveys conducted via netcentric tool
- Retrieve data from multiple, continuously updated databases
- Rapidly evaluates risk(s) of multiple forward sites
- Provides Mitigating COA's to Reduce ESOH, Operational risks
- Deliberate and tactical planning

Evaluate Multiple Locations & Operations Simultaneously



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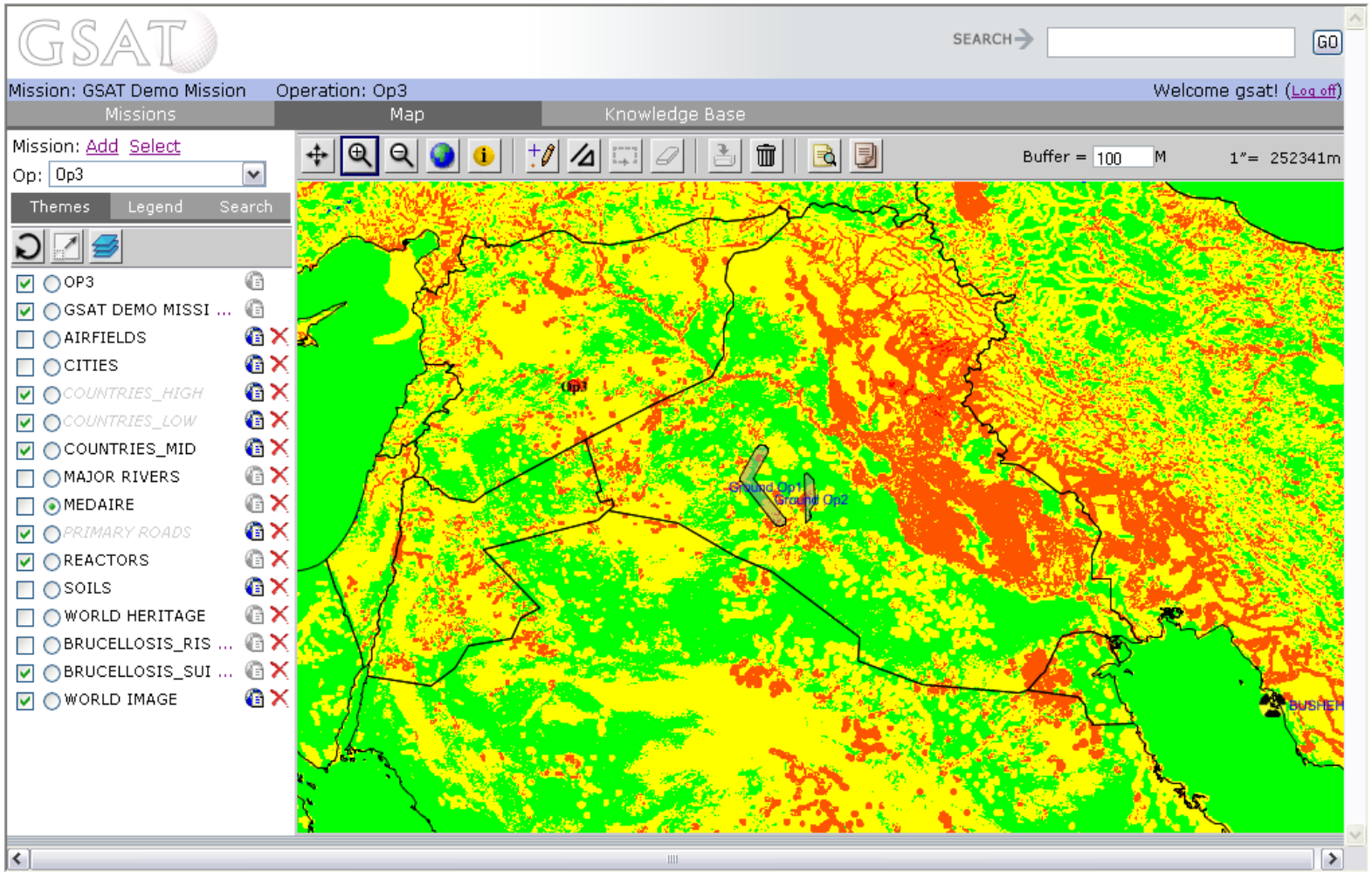
Suitability Example (Brucellosis)



Health and Safety: Dangerous Creatures

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Death Stalker

One of the world's most dangerous scorpions, with a very potent venom. Potentially deadly; only localized reactions occur in 97% of victims, but can be lethal in children

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Operation Name: base ops

Leiurus quinquestriatus	Death Stalker	This species grows up to 10 cm in length and is usually straw yellow to orangish yellow. It is very unique in that it has five keels on mesasomal tergites I-II. III-VII have the typical Metasomal segment V i
Naja haje arabicus	Arabian Cobra	Average length 4.9 to 5. 8.2. Males have longer hoods are heavier than
Walterinnesia aegyptia	Desert Black Snake	Relatively large, 3 to 4 f slender, glossy black co Head small, flatt

Operation Name: Low level

Androctonus amoreuxi	Fat tailed scorpion	The terminal metasoma coloration and the metas

Dry habitats/desert areas on various substrate types (but not in sand dunes). Hides in small

This one of th dangerous sc very p

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erate Ris omation

erate Ris omation moderate; venom

ially deadly.

f the world most rous species. It is known quite agressive. ially deadly.

early as venomous as A. lis or L. quinquestriatus tentially deadly.

erate Risk). Frequency of omation moderate; venom

cause death under certain ions. ially deadly.

dangerous North African ecies; subspecies in rn France is much less

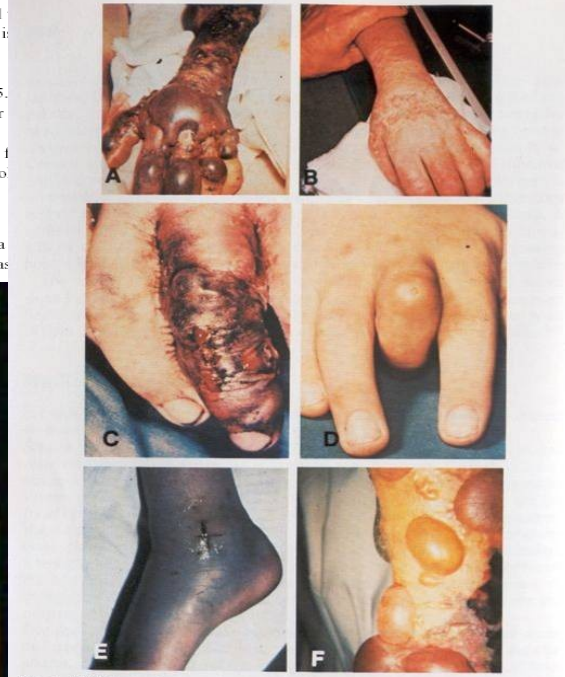

Plate 1. (A) Patient as first seen by me 4 days following severe envenomation by *Crotalus horridus horridus*. (B) Six weeks after conservative care: sterile whirlpool treatment, Burow's solution soaks, oxygen to the hand, painting of the wounds with triple dye (p. 317), and physical therapy. Patient regained full use of hand with only slight limitation of motion of thumb. (C) Finger as first seen 6 days following severe envenomation by *Crotalus viridis helleri*. (D) Finger 8 weeks later, showing bite area. (E) Ecchymosis and swelling 16 hours following bite by *Crotalus ruber ruber*. Cruciate incisions made by patient. (F) Serosanguinous and blood-filled blebs on arm at 4 days following bite by unknown rattlesnake. Note debrided areas painted with triple dye.

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GSAT Transition

- **Joint Expeditionary Force Experiment 2006 (JEFX'06)**
  - **Evaluated with AFSOC suite of SOF Special Tactics Tools (SWIPE)**
- **Management of GSAT Transitioned to AFSOC Surgeon, Jan. 2006**

Challenges-

Robust links to authoritative database

- **Clear Requirement from Service or Combatant Commander for deliberate environmental Contingency Planning**
- **Needs Sponsor, Sustainment Funding**

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